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United States
Department of
Agriculture

Forest Service

North Central
Forest Experiment
Station

Research Note **NC-372**
1997

Pulpwood Production in the Lake States, 1996

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ABSTRACT.—Pulpwood production in the Lake States decreased from 9.6 million cords in 1995 to 9.5 million in 1996. Michigan, Minnesota, and Wisconsin pulpwood production is shown by county and species group.

KEY WORDS: Residue, roundwood, whole-tree chips, Minnesota, Michigan, Wisconsin.

Pulpwood production[2] in the Lake States—Michigan, Minnesota, and Wisconsin —decreased to 9.5 million cords in 1996 from 9.6 million cords in 1995[3]. Wisconsin produced 3.3 million cords, and Michigan and Minnesota each produced 3.1 million cords in 1996. Ninety-one percent of the pulpwood produced came from roundwood (including chips from roundwood); the remainder came from mill residues such as slabs, edgings, veneer cores, and chips from these materials (fig. 1).

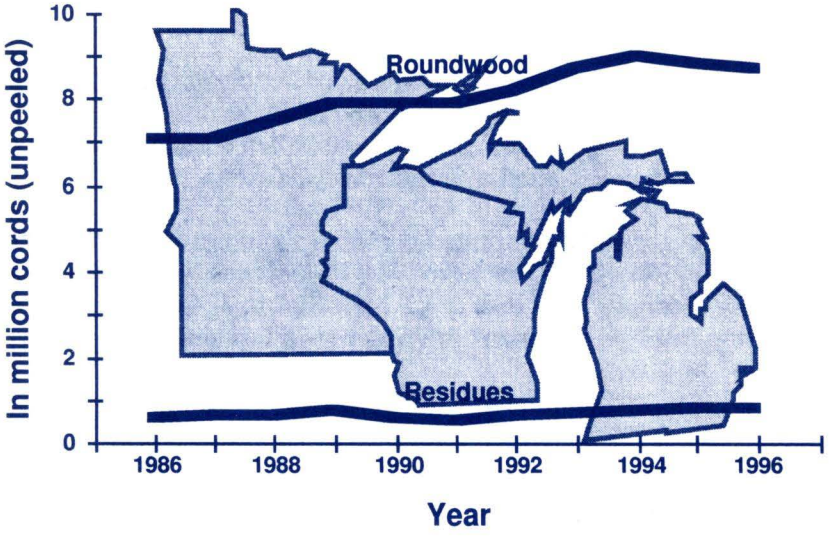

Figure 1.—*Pulpwood production, Lake States, 1986-1996.*

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ROUNDWOOD

Roundwood production totaled 8.7 million cords; Michigan produced 2.8 million cords and Minnesota and Wisconsin each produced 2.9 million cords (table 1). Seventy-six percent of the harvested species were hardwoods. Aspen accounted for 47 percent of the total production (4.1 million cords). The other major species groups were pine (1.2 million cords), maple (1.2 million cords), spruce-fir (0.7 million cords), and birch (0.6 million cords) (fig. 2).

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[2] *Includes logs, bolts, and wood residue used in manufacturing particleboard, engineered wood products, oriented strand board, hardboard, and medium density fiberboard.*

[3] *Previous year's data are from "Pulpwood Production in the Lake States, 1995," Research Note NC-370, 1996.*

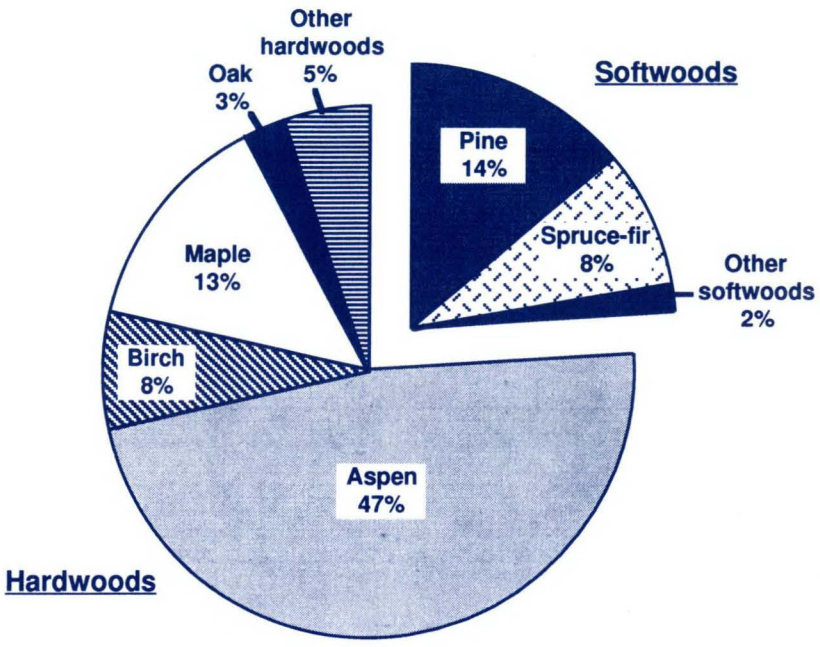

Figure 2.—*Distribution of roundwood production by major species group, Lake States, 1996.*

Counties harvesting more than 150 thousand cords each were Houghton, Iron, Marquette, and Ontonagon in Michigan; Beltrami, Cass, Itasca, Koochiching, and St. Louis in Minnesota; and Bayfield and Douglas in Wisconsin. These 11 counties contributed 35 percent of the roundwood pulpwood produced in the Lake States in 1996.

In 1996, whole-tree chips (WTC) supplied 649 thousand cords, a 15-percent increase from 1995. Michigan's production of WTC increased by 29 percent to 439 thousand cords, while Wisconsin's production decreased by less than 1 percent to 134 thousand cords and Minnesota's production fell by 15 percent to 76 thousand cords.

MILL RESIDUES

Pulpwood production from mill residues amounted to 810 thousand cords in 1996, less than a 1/2-percent increase over 1995. Mill residue production increased by 4 percent in Minnesota, remained the same in Michigan, and decreased by 1 percent in Wisconsin. Softwood residue production decreased 35 percent, and hardwood residue production increased 27 percent. Production from softwood and hardwood residues by State was:

State	Softwood	Hardwood
	(Thousand standard cords, unpeeled equivalents)	
Michigan	88	189
Minnesota	63	105
Wisconsin	75	289

Tabel 1. -- Lake States pulpwood production from roundwood by State, Forest Survey Unit, county, and species group, 1996 1/

(In standard cords, unpeeled)

MINNESOTA

Forest Survey Unit and county 2/	All species	Species group										
		N. white-cedar	Balsam fir	Hemlock	Pine	Spruce	Tamarack	Aspen	Birch	Maple	Oak	Other hardwoods
Aspen-Birch												
Carlton	62,764	--	9,009	--	3,710	4,923	--	35,843	7,946	350	21	961
Cook	70,453	--	6,624	--	12,672	31,865	4,505	10,234	4,001	360	--	192
Koochiching	449,402	--	49,801	--	4,679	36,644	4,803	313,330	1,339	--	--	38,805
Lake	101,999	--	15,719	--	3,340	17,193	45	48,013	13,404	1,030	1	3,255
St Louis	636,636	--	89,959	--	13,915	66,935	1,872	408,787	31,044	2,767	--	21,357
Total	1,321,254	--	171,113	--	38,315	157,560	11,225	816,206	57,734	4,507	22	64,570
Northern Pine												
Aitkin	98,469	--	5,583	--	2,615	1,568	--	83,811	3,165	164	--	1,565
Becker	90,233	--	763	--	1,864	716	--	85,357	1,157	--	--	377
Beltrami	152,821	--	4,820	--	2,945	1,243	--	127,053	7,514	--	--	9,248
Cass	197,536	--	7,373	--	12,571	940	10	164,722	9,645	--	--	2,274
Clearwater	94,118	--	2,328	--	1,697	73	--	84,479	3,942	--	--	1,599
Crow Wing	72,798	--	69	--	8,707	123	--	61,346	2,532	--	--	22
Hubbard	114,752	--	831	--	9,107	599	--	97,262	5,722	--	--	1,230
Itasca	321,012	--	50,539	--	6,987	32,240	2,161	209,926	10,999	501	--	7,658
Lake of the Woods	37,751	--	2,302	--	237	5,246	78	28,981	122	--	--	785
Mahnomen	15,440	--	--	--	74	--	--	15,248	111	--	--	8
Roseau	14,683	--	523	--	673	1,157	--	11,603	5	--	--	721
Wadena	22,088	--	--	--	3,641	48	--	18,302	75	--	--	22
Total	1,231,702	--	75,130	--	51,117	43,953	2,250	988,090	44,988	665	--	25,510
Central Hardwood												
Benton	621	--	--	--	412	--	--	208	--	--	--	--
Chisago	7,166	--	--	--	4,999	443	--	1,290	210	134	22	70
Douglas	509	--	--	--	--	--	--	508	--	--	--	1
Goodhue	382	--	--	--	--	--	--	382	--	--	--	--
Isanti	3,790	--	--	--	3,760	--	--	30	--	--	--	--
Kanabec	13,118	--	--	--	661	--	--	11,966	419	43	--	28
Mille Lacs	59,202	--	131	--	1,130	104	--	57,812	--	--	--	24
Morrison	21,867	--	--	--	3,989	394	--	17,352	109	--	--	22
Otter Tail	33,416	--	--	--	32	--	--	33,106	29	--	--	249
Pine	140,689	--	6,072	--	7,780	1,536	--	115,688	5,496	3,208	22	887
Rice	14	--	--	--	14	--	--	--	--	--	--	--
Sherburne	2,612	--	--	--	2,548	31	--	31	--	--	--	1
Stearns	611	--	--	--	--	--	--	611	--	--	--	--
Todd	7,875	--	--	--	98	--	--	7,743	--	--	--	34
Wabasha	441	--	--	--	440	--	--	--	--	--	--	--
Washington	1,571	--	--	--	1,494	--	--	11	35	20	--	9
Winona	1,550	--	--	--	1,024	98	--	--	229	125	11	63
Wright	693	--	--	--	693	--	--	--	--	--	--	--
Total	296,127	--	6,203	--	29,078	2,606	--	246,738	6,527	3,530	55	1,388
Prairie												
Clay	49	--	--	--	--	--	--	49	--	--	--	--
Kittson	8,918	--	11	--	--	--	--	8,902	--	--	--	4
Marshall	10,401	--	--	--	--	--	--	10,109	9	--	--	282
Norman	6,715	--	--	--	--	--	--	6,715	--	--	--	--
Pennington	7,497	--	--	--	--	--	--	7,358	103	--	--	36
Polk	10,819	--	--	--	--	17	--	10,758	10	--	--	34
Red Lake	3,452	--	--	--	--	--	--	3,410	39	--	--	3
Total	47,849	--	11	--	--	17	--	47,300	162	--	--	359
State total	2,896,932	--	252,458	--	118,511	204,136	13,474	2,098,335	109,412	8,701	77	91,828

1/ Table may not add due to rounding.

(Table 1 continued on next page)

2/ Includes only those counties that supplied pulpwood in 1995.

(Table 1 continued)

MICHIGAN

Forest Survey Unit and county 2/	All species	Species group: N. white-cedar	Balsam fir	Hemlock	Pine	Spruce	Tamarack	Aspen	Birch	Maple	Oak	Other hardwoods
Eastern Upper Peninsula												
Alger	105,051	742	4,131	4,643	11,368	8,064	536	12,988	13,447	42,181	381	6,570
Chippewa	110,838	675	4,952	2,860	29,359	3,890	488	30,143	8,460	21,117	342	8,552
Delta	124,403	824	5,080	4,343	18,365	4,054	596	27,884	16,750	38,609	340	7,558
Luce	66,370	134	1,163	6,423	15,761	2,513	97	8,153	6,958	21,905	190	3,073
Mackinac	96,734	338	2,678	1,105	13,051	2,048	182	30,063	10,678	26,916	243	9,431
Menominee	72,474	562	2,997	2,685	4,775	1,550	406	22,094	11,058	21,139	204	5,001
Schoolcraft	113,618	768	4,054	3,124	32,873	4,410	589	20,765	9,820	31,280	266	5,672
Total	689,489	4,043	25,056	25,183	125,551	26,530	2,895	152,090	77,171	203,147	1,966	45,857
Western Upper Peninsula												
Baraga	102,440	170	1,586	13,792	4,067	3,075	123	22,505	13,778	34,045	1,482	7,817
Dickinson	108,061	682	5,386	2,905	11,549	8,193	504	43,696	11,854	16,772	918	5,601
Gogebic	88,396	11	1,930	1,303	894	1,936	58	19,395	16,059	35,834	3,592	7,383
Houghton	178,830	202	3,003	3,540	8,802	4,041	312	35,056	27,532	72,830	3,318	20,195
Iron	196,334	866	10,399	4,311	17,500	12,150	808	58,310	25,509	51,248	2,558	12,674
Keweenaw	28,320	62	560	1,183	485	1,689	45	2,870	6,727	12,371	760	1,568
Marquette	295,125	1,846	12,029	17,194	52,423	11,652	1,335	75,719	28,348	75,659	2,094	16,823
Ontonagon	219,384	78	2,642	1,376	10,302	7,215	57	76,051	14,433	71,701	2,696	32,833
Total	1,216,889	3,918	37,535	45,604	106,023	49,952	3,241	333,602	144,241	370,458	17,420	104,896
Northern Lower Peninsula												
Alcona	42,138	--	15	--	5,322	10	--	26,646	2,212	4,927	187	2,817
Alpena	33,148	39	354	--	2,637	114	--	20,751	1,597	6,082	158	1,416
Antrim	10,133	1	12	--	194	3	--	3,060	1,015	4,096	885	867
Arenac	6,025	--	--	--	53	--	--	4,001	495	1,117	73	285
Bay	1,450	--	--	--	107	--	--	1,168	78	98	--	--
Benzie	9,680	--	--	--	1,152	--	--	3,473	604	2,014	1,407	1,030
Charlevoix	4,443	--	--	--	117	--	--	972	67	1,849	60	1,378
Cheboygan	53,129	34	294	--	10,309	156	--	27,643	2,076	10,595	467	1,555
Clare	34,661	--	--	--	4,975	--	--	19,771	962	7,798	808	349
Crawford	71,509	2	11	6	35,424	4	1	20,922	2,115	9,315	2,581	1,129
Emmet	31,213	8	62	--	3,842	15	--	11,202	1,932	11,351	144	2,660
Gladwin	22,085	--	--	--	296	--	--	15,760	1,026	4,511	57	434
Grand Traverse	13,548	--	--	--	4,827	--	--	4,936	578	1,863	570	773
Iosco	13,153	--	--	--	1,248	--	--	8,272	1,109	1,847	182	494
Isabella	22,536	--	--	--	369	--	--	13,626	240	7,860	13	428
Kalkaska	20,702	--	--	56	6,375	--	--	7,035	535	4,636	846	1,219
Lake	19,284	--	--	--	552	--	--	5,523	1,476	4,672	4,165	2,896
Leelanau	1,090	--	--	--	--	--	--	714	27	289	7	53
Manistee	27,085	--	--	--	32	--	--	9,849	1,694	7,751	4,716	3,043
Mason	17,507	--	--	--	--	--	--	8,537	1,181	3,642	2,466	1,682
Mecosta	27,581	--	--	--	1,274	--	--	13,847	265	8,504	1,633	2,058
Midland	13,956	--	--	--	54	--	--	7,462	638	3,987	885	930
Missaukee	29,212	3	16	11	2,966	7	2	16,636	1,119	6,351	1,064	1,038
Montmorency	46,788	--	--	--	5,693	--	--	28,079	1,657	7,164	114	4,081
Newaygo	25,490	--	--	--	--	--	--	9,615	484	10,152	3,444	1,794
Oceana	11,034	--	--	--	--	--	--	4,877	407	2,656	1,978	1,115
Ogemaw	28,560	--	--	--	10,206	--	--	11,671	817	3,042	2,140	682
Osceola	36,953	--	--	--	165	--	--	17,891	834	12,225	3,137	2,700
Oscoda	28,204	--	--	--	8,316	--	--	13,322	1,298	3,310	855	1,104
Otsego	38,371	--	276	--	3,477	28	--	17,706	1,969	10,270	244	4,401
Presque Isle	49,453	82	1,082	76	7,552	534	10	23,247	2,092	12,848	248	1,680
Roscommon	50,994	46	366	--	18,876	87	--	18,999	1,269	7,066	3,210	1,077
Wexford	19,821	--	--	--	4,553	--	--	8,361	755	3,742	1,101	1,311
Total	860,937	215	2,488	149	140,960	958	14	405,572	34,628	187,628	39,846	48,479
Southern Lower Peninsula												
Allegan	14,360	--	--	--	--	--	--	3,244	--	3,046	8,018	53
Barry	1,130	--	--	--	--	--	--	272	--	236	623	--
Berrien	583	--	--	--	--	--	--	131	--	125	327	--
Branch	2,104	--	--	--	--	--	--	472	--	449	1,182	--
Calhoun	1,081	--	--	--	--	--	--	236	--	225	597	23
Cass	1,244	--	--	--	--	--	--	279	--	266	699	--
Gratiot	5,884	--	--	--	--	--	--	2,865	--	2,492	--	527
Huron	20	--	--	--	--	--	--	20	--	--	--	--
Kalamazoo	1,497	--	--	--	--	--	--	429	--	245	757	65
Kent	7,240	38	366	--	--	87	--	2,317	12	1,584	2,668	167
Montcalm	8,285	--	--	--	229	--	--	4,388	11	2,365	979	312
Muskegon	7,514	--	--	--	--	--	--	2,001	--	1,531	3,983	--
Ottawa	3,506	--	--	--	--	--	--	1,043	--	709	1,754	--
Saginaw	33	--	--	--	--	--	--	18	--	--	15	--
Sanilac	1,351	--	--	--	143	--	--	796	96	316	--	--
St Joseph	2,156	--	--	--	--	--	--	470	--	447	1,178	61
Tuscola	1,246	--	--	--	29	--	--	1,195	--	22	--	--
Van Buren	7,449	--	--	--	--	--	--	1,671	--	1,590	4,187	--
Total	66,684	38	366	--	401	87	--	21,848	119	15,648	26,968	1,210
State total	2,833,999	8,214	65,444	70,936	372,935	77,527	6,149	913,112	256,159	776,880	86,199	200,444

(Table 1 continued on next page)

(Table 1 continued)

WISCONSIN

Forest Survey Unit and county 2/	All species	Species group										
		N. white-cedar	Balsam fir	Hemlock	Pine	Spruce	Tamarack	Aspen	Birch	Maple	Oak	Other hardwoods
Northeastern												
Florence	78,667	40	2,347	3,490	12,453	1,303	120	29,616	10,332	9,779	2,941	6,246
Forest	108,263	--	7,087	2,763	7,009	2,909	129	40,166	13,741	20,599	3,335	10,524
Langlade	115,718	--	8,567	1,312	3,996	2,192	306	48,162	14,191	23,355	3,441	10,195
Lincoln	135,092	--	4,036	511	6,845	1,508	710	63,686	13,025	22,852	5,410	16,509
Marinette	114,173	--	2,886	581	37,965	1,404	296	44,228	9,877	8,106	3,043	5,787
Menominee	81,895	384	2,107	10,063	13,150	858	278	26,811	3,358	18,390	537	5,958
Oconto	52,453	--	487	409	10,292	604	--	23,765	6,350	5,149	1,724	3,672
Oneida	149,884	--	8,930	595	19,301	3,531	2,700	44,905	23,269	21,055	7,894	17,703
Shawano	31,981	--	224	778	3,567	133	264	13,956	2,403	7,463	554	2,639
Vilas	134,687	--	4,180	295	42,952	1,203	127	31,507	23,379	15,417	6,245	9,381
Total	1,002,814	423	40,852	20,798	157,530	15,646	4,930	366,803	119,926	152,166	35,126	88,614
Northwestern												
Ashland	72,410	--	3,640	220	3,849	2,748	319	35,806	7,395	13,045	1,833	3,555
Barron	27,330	--	14	--	1,635	255	--	19,710	1,546	2,540	803	826
Bayfield	170,989	--	4,055	160	53,422	1,250	32	67,349	18,514	17,737	3,789	4,682
Burnett	67,254	--	37	--	32,517	451	152	25,667	2,551	3,592	1,157	1,129
Douglas	184,260	--	23,675	--	58,535	4,991	274	65,181	17,530	11,738	759	1,577
Iron	134,907	3	7,154	631	2,450	2,143	147	73,075	12,718	19,033	5,360	12,192
Polk	43,720	--	19	22	14,986	22	29	22,202	2,190	2,879	544	825
Price	121,267	--	4,219	150	8,260	2,513	2,078	55,276	13,262	20,990	4,484	10,037
Rusk	63,954	--	287	32	1,584	470	182	27,526	8,890	16,707	2,413	5,862
Sawyer	145,460	--	3,506	204	10,234	2,585	213	64,508	25,036	28,777	3,667	6,731
Taylor	69,458	--	2,435	1,313	1,179	393	372	35,746	7,716	12,047	2,119	6,137
Washburn	109,073	--	1,435	17	42,364	272	845	46,548	6,018	8,589	1,089	1,895
Total	1,210,081	3	50,474	2,750	231,012	18,093	4,643	538,594	123,367	157,675	28,019	55,450
Central												
Adams	79,505	--	20	--	62,391	10	6	6,363	381	888	9,056	389
Chippewa	30,315	--	36	103	2,117	15	170	20,127	2,269	3,121	902	1,456
Clark	105,422	--	1	96	10,714	25	67	51,375	9,061	16,131	11,903	6,049
Eau Claire	31,956	--	--	--	10,031	16	--	10,354	2,049	3,634	4,659	1,211
Jackson	83,679	--	126	43	37,288	160	30	15,101	4,028	13,215	10,716	2,973
Juneau	57,663	--	--	--	36,806	4	--	3,036	1,198	2,620	13,146	853
Marathon	54,704	--	281	791	6,766	196	--	21,302	4,008	12,870	2,066	6,426
Marquette	12,558	--	--	--	10,966	--	--	304	195	380	540	174
Monroe	31,804	--	--	--	17,820	--	100	4,755	862	2,352	5,112	802
Portage	42,997	--	37	388	25,122	156	169	9,387	996	2,803	2,837	1,103
Waupaca	17,723	--	--	112	6,888	25	--	5,327	785	2,490	747	1,349
Waushara	28,590	--	1	14	25,121	43	12	1,067	300	677	1,087	270
Wood	40,756	--	--	13	12,092	239	--	21,037	1,205	2,448	3,117	608
Total	617,671	--	503	1,558	264,121	889	554	169,534	27,335	63,628	65,885	23,666
Southwestern												
Buffalo	6,505	--	--	--	829	60	--	4,756	202	341	160	156
Crawford	990	--	--	--	624	22	--	67	13	20	203	41
Dunn	18,159	--	--	--	9,015	66	--	5,222	1,297	1,404	630	526
Grant	2,575	--	--	--	2,202	--	--	23	45	81	196	29
Iowa	3,354	--	--	--	2,742	66	6	269	15	26	224	6
La Crosse	4,630	--	--	--	3,494	--	--	389	113	180	315	137
Lafayette	13	--	--	--	--	--	--	--	3	7	1	1
Pepin	3,261	--	--	--	655	156	--	1,337	271	364	232	244
Pierce	1,499	--	--	--	374	38	--	849	95	52	29	62
Richland	2,181	--	--	--	2,069	5	--	21	1	2	80	3
Sauk	9,568	--	3	--	6,806	47	--	337	319	613	1,150	292
St Croix	9,641	--	--	--	1,269	251	--	7,612	307	152	29	23
Trempealeau	12,137	--	--	--	7,945	--	--	2,734	308	497	339	314
Vernon	823	--	--	--	749	--	--	--	9	13	43	9
Total	75,334	--	3	--	38,774	710	6	23,615	2,999	3,753	3,632	1,843
Southeastern												
Brown	11,083	--	--	--	1,461	22	--	8,243	19	125	17	1,194
Calumet	21	--	--	--	--	--	--	--	4	7	5	5
Columbia	7,227	--	32	--	5,753	131	--	108	78	226	849	47
Dane	557	--	--	--	358	13	--	--	29	53	73	31
Dodge	46	--	--	--	--	--	--	25	--	--	21	--
Door	3,788	--	105	11	1,179	383	--	883	1,009	125	35	57
Fond Du Lac	468	--	--	--	72	--	--	82	30	57	212	14
Green	355	--	--	--	346	--	--	--	--	--	9	--
Green Lake	2,742	--	--	--	2,087	50	--	89	21	36	423	36
Jefferson	1,259	--	--	--	1,233	15	--	--	--	8	--	1
Kenosha	24	--	--	--	24	--	--	--	1	--	--	--
Kewaunee	126	--	--	--	113	--	--	--	2	9	--	2
Manitowoc	1,419	--	15	14	1,199	98	--	--	9	73	--	12
Milwaukee	29	--	--	14	16	--	--	--	--	--	--	--
Outagamie	3,858	--	--	11	1,207	104	--	1,085	188	1,019	42	202
Ozaukee	28	--	--	--	28	--	--	--	--	--	--	--
Racine	508	--	--	--	290	206	--	--	2	9	--	1
Rock	1,513	--	16	--	1,460	38	--	--	--	--	--	--
Sheboygan	644	--	30	--	393	25	--	131	1	8	--	56
Walworth	2,190	--	--	--	2,089	39	64	--	--	--	--	--
Washington	566	--	--	29	245	66	--	28	24	141	6	26
Waukesha	972	--	--	--	824	96	--	--	6	40	--	6
Winnebago	86	--	--	--	74	--	--	--	--	--	11	--
Total	39,508	--	197	79	20,448	1,284	64	10,675	1,422	1,939	1,706	1,693
State total	2,945,409	427	92,028	25,184	711,885	36,623	10,197	1,109,221	275,049	379,160	134,369	171,266
Total Lake States	8,676,340	8,640	409,931	96,120	1,203,331	318,286	29,821	4,120,667	640,620	1,164,741	220,645	463,538

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